Previous references.

Legis 22 of 04-05
SL 172 B year 5

1907.
(Legislation)

File No. 14 of 06

Serial Nos. 172

Later references.

14 - 06 SL.
B April 07

GENERAL AND REVENUE SECRETARIAT.

Serial Nos. 172

Part B. for Feb 07

SUBJECT.

Report of the Chief Inspector of Explosives in Mysore for the Year 1905.

Table of Contents

Serial No.

To the offg. Secretary Govt. Dept.
No 1157 d 16.11.06
Forwards for information a copy of the report and states that 1000 copies thereof will be

G. R. S. 58

will be forwarded on receipt of the same from the Govt Press

To The Chief Inspector of Explosives
The Dt. magte of the Dlo
The I.G. of Police

G.O. No J 2490-99 d 15-2-07

Reviews the above report

G. R. S. 11] 1906.07

GENERAL AND REVENUE SECRETARIAT

(Legislative)

NOTES.

File. No 14

FILE HEADING.

Report of the Chief Inspector of Explosives in Mysore for the year 1905

From

The Offg Secretary to Govt, Judicial Department

No. 1157 Dated 14/11/06 Received 15/11/06

Diary No. 1110 | Enclos. one Spare Copies. | Serial No. 1

BRIEF ABSTRACT OF LETTER.

Forwards for information a copy of the report and states that printed copies thereof with appendices will be forwarded on receipt of the same from the Govt Press

NOTES AND ORDERS.

1 The report for the year 1903 was reviewed by the Secretary (then Deputy Secretary) but the report for 1904 was merely acknowledged & not reviewed

2 The Offg Chief Inspector of Explosives suggests

Notes—First sheet.

MGCPB—30,000—17-2-05.

G.R.S. 12J
General and Revenue Secretariat.

Ly File No. 14 of 1906-07

Serial No.

are a 2 points for consideration
The first (vide para 3, sub para 3) seems to be to include Hydro Carbons of the class described by him among the class of Explosives defined in Rule 1 of the Explosives rules and (2) Provision of some suitable means to test the chemical conditions of Explosives. (Vide para 5)
3 Subs for orders with reference

30/11/06

4 A draft review is submitted for approval.

WS 5/12/06

5 Circulated to Councillors

R. 9/12/06

WS 11/12/06

6 May be approved

11/12/06

May be approved

29/12/06

30/12/06

Note—Contn. sheet

GPB—50,000—23-10-05

Submitted to His Highness.

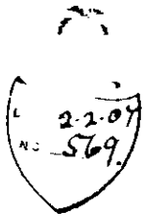
8 The draft review of the report of the Chief Inspector of Explosives in Mysore for the year 1905, may be approved.

5/1/05

4

Record of Cases submitted for the Orders of His Highness the Maharaja.

Subject.



Report of the Chief Inspector of Explosives in Mysore for the year 1905, with draft review.

575

Order.

1 Approved
KRW
8/2/07

Dewan's Order
to Please issue
to
8/2
7/2/07

1 cc
21/2

F.R.S. 12]
General and Revenue
Secretariat.

Leg File No. 14 of 1906

Serial No.	
2	Put under rule 50-55 of the Explosives Rules to the Chief Inspector of Explosives, District Magistrates of Districts of the Inspectorate. Receive the above report

GPB—50,000—23-10-05

J/210 D 2610

M.G.D. 12]

MYSORE GEOLOGICAL DEPARTMENT.

DATED BANGALORE, 16th November 1906.

No. 1157.
Encl. 1 Report.

From

E. W. WETHERELL, ESQ., A.R.C.S., F.G.S.,

Offg. Secretary to the Government of H. H. the Maharaja of Mysore,

Geological Department.

To

K.S. Chandrasekhara Iyer, Esquire, B.A.,B.L.,
Secretary to the Government of
His Highness the Maharaja of Mysore,
Gen. & Rev. Depts.

SIR,

I have the honour to forward herewith for your information a copy of the Report of the Officiating Chief Inspector of Explosives in Mysore for the year 1905 and to state that printed copies of the same with the appendices will be furnished to you on ~~their~~ receipt from the Government Press.

I have the honour to be,
Sir,
Your most obedient servant,

E W Wetherell

Offg.Secretary to Government,
Geological Department.

C.N.

Report

of the

Chief Inspector of Explosives in Mysore

for the year 1905.

From

A.T. Setlur, Esquire, L.C.E.,

Officiating Chief Inspector of Explosives

in Mysore.

To

E.W. Wetherell, Esquire, A.R.C.S.,F.G.S.,

Officiating Secretary to the Government

of His Highness the Maharaja of Mysore

Geological Department.

Sir,

I have the honour to submit this, my short Report on the working of the Explosives Department for the calendar year ending 31st December 1905 for submission to the Government of His Highness the Maharaja of Mysore, with your kind notices,for publication and review by Government.

2.Prefatory.- Dr.W.F.Smeeth, M.A.,D.Sc.,B.E., &c., had himself the control of the Explosives Department as well,up to the 10th of May 1905, onwhich date he proceeded to England on privilege leave combined with long furlough and during the remainder of the period under report, I officiated for him as Chief Inspector of Explosives, by appointment made by the Government of His Highness the Maharaja in Order No.1101-S, dated the 5th of May 1905.

This Report, like the one drawn up by me for the previous year naturally suffers for not having had even the benefit of revision at the hands of Dr.Smeeth, as it will not

entirely

entirely represent the observations that could ~~be made in~~ advantageously be made in the event of one holding the control of the branch for the full year under report.

The materials as usual are drawn to some extent from the monthly and annual returns received from the District Magistrates of the Province and the Inspector General of Police in Mysore.

3.General.- There have been no modifications of or additions to the Mysore Explosives Regulation and Rules thereunder during the year under review.

The question of introducing certain definite modifications into the Regulations and Rules for Explosives and Arms and Ammunition so as to completely remove all explosives from the Arms Regulation with a view to their being dealt with solely under the Explosives Regulation instead of under both, as at present, which has been under consideration of Government for the past 5 years is still engaging the attention of this Department and will, it is expected, be finally settled after Dr. Smeeth's return from leave.

As it will however be sometime before the whole matter can be satisfactorily arranged in as much as it necessitates the suitable modification of both the Arms and Explosives Regulations and ~~modification~~ alteration of Rules thereunder, it will not, I believe, be out of place here to suggest for the consideration and decision of Government the advisability of bringing under legislation, all oil installations and factories, kerosine oil tanks and stores, carbide, petrol and such other less dangerous compounds of Hydro-carbons especially of the paraffin class and other modern explosives compounds that have been marketed after the issue of the Regulation No.II of 1888 as substitutes for those that were ~~cognized~~ included under the Regulation with a view to effectively provide for their ~~cognized~~ import safe keeping and

to

to offer timely advises as to their quantity and conditions of storage &c. This will in fact regulate import sale, keeping &c., of the new articles of merchandise.

The opinions and suggestions of the District Magistrates who are empowered to exercise their discretion in granting licenses under Rule 9 and who are directly responsible for the efficient carrying out of all conditions of granting such licenses and periodical inspection of premises &c., in regard to the proposal referred to in my Report for 1904, to modify some of the Explosives Rules and particularly Rule 9, were all obtained except from the District Magistrate of Chitaldrug and the Inspector General of Police in Mysore and considered during the year under report. The matter will be dealt with and disposed of in consultation with Dr.Smeeth after his return from furlough at an early date.

4.Conditions of Storage.- The general conditions of storing the Explosives was not very different during the year from the practice observed during the previous year which is satisfactory enough, under the existing conditions. However I am glad to be able to state that owners of magazines have invariably shown all readiness to remedy such of the defects and to introduce such improvements towards greater safety of the Explosives as were pointed out by me, notwithstanding that in some cases they involved considerable expense. These improvements to the Magazines became necessary to permit increased quantities of Explosives to be stored as its demand increases with the development of Mining operations.

With regard to the premises licensed by District Magistrates it has not been possible to effect as much improvement during the year, as could be desired, chiefly because of the very limited time I had at my disposal for inspection work in consequence of the additional duties of the Registrar of the epartment, which was entrusted to me and which detained me at Head Quarters. Besides the circumstances under which at present

licenses

licenses are issued for storage of explosives cannot easily be amended to suit the necessary conditions. However all endeavours will be made to arrange for more systematic visits in future with a view to bring the premises to a more satisfactory condition, as it is now found possible.

There has been a steady improvement in the conditions of storage of Explosives in larger Magazines licensed by Government under Rule 18 of the Mysore Explosives Rules and I am glad to be abe to say that with only a few exceptions all the Magazines are now in proper order and conform perfectly to the requirements of Explosives Rules in force. The rest that are yet defective will soon be brought to a similar condition.

5.Conditions of Explosives.- That the physical and chemical conditions of all the explosives in the different Magazines and stores were satisfactory enough can be inferred from the absence of complaints to the contrary by those using them. This method of indirect conclusion cannot hold good longer and the urgent necessity of providing some suitable means for testing the chemical conditions of Explosives has already been pointed out by me in my report for 1904 and I sincerely hope that the question will receive the early consideration of His Highness' Government. In this connection I may suggest that the Inspectors of Explosives under the Government of India are permitted to entrust the Chemical Examiner to try heat tests and report about the satisfactory chemical conditions of Explosives suspected to have deteriorated. The physical conditions of the different kinds of Explosives can best be examined and noted by inspecting officers competent to do so and reported to the Chief Inspector of Explosives for his opinion.

6.Number of licenses granted.- As many as 127 licenses were granted by all the District Magistrates of the Province during the year under report against 115 granted during 1904 showing an increase of 12 licenses for manufacture, possession

and sale of Explosives in Forms A,B,C,D and F of the Explosives Rules. Besides these 13 other licenses were granted by Government or 4 less than the number granted during the previous year. The difference is merely due to the issue of a few temporary licenses before the issue of permanent ones in their places in 1904 pending the completion of necessary improvements suggested to the Magazines consistant with either their increased storage capacity or radically defective circumstances. Thus the total number of licenses issued during the year comes up to 140 against 132 in the previous year.

The total number of Magazines licensed exceeds the total number of licenses granted, because in some cases a single license covers more than one Magazine under the same proprietorship, as it is customary to include all the neighbouring Magazines under the same proprietorship in a singbe license.

A statement showing the number of licenses granted by the District Magistrates and another showing those granted by the Government are annexed hereto, vide appendices A & B.

7.Inspection work.- During the year under review 315 independent inspections were made against 292 conducted during the year 1904 by the Magistracy and Police Officers authorized to do so under Rule 43 of the Explosives Rules. This shows a further improvement over that of last year. It is satisfactory to note that the inspection work which up to the year 1904 was far from being adequate was taken up in earnest during the year 1904 and improved during 1905. These inspections were however confined to only 112 premises out of a total of 140 that were licensed during the year leaving as many as 28 still uninspected. It is highly desirable that all the licensed premises should be inspected at least once during the currency of the license. Of the 112 premises that were inspected some were visited more than half a dozen times during the year sometimes at near intervals without any apparent reason for so doing and many more than once and all at least once.

A perusal of the returns received from the District Magistrates will reveal that only those premises that are situated in the immediate neighbourhood of populous towns or frequented localities such as gathering places, have been inspected more frequently than others far removed and out of the way. My observations in my report for 1904, that some of the premises have been more often inspected than is absolutely necessary often to the annoyance and interference of trade of the licensee have not had the desired effect is plain from the persistant repetition of inspections observable in the returns for 1905. It is therefore suggested once again that inspections may be advantageously restricted to 4 during the year or one each quarter, unless it is required to increase the inspection on account of suspecious circumstances. The attention of the District Magistrates may be kindly invited to this and to the necessity of inspecting all the licensed premises without an exception in future at regular intervals.

Some of the larger Magazines were inspected by the Officiating Chief Inspector of Mines in the course of his work and such of the recommendations made by him for the improvements of the Magazines have been considered.

My own time for inspection was very much limited on account of the pressure of other responsible work which completely detained me in Head Quarters. A perusal however of appendices A & B will show how the licensed premises and Magazines are widely distributed throughout the Province and how difficult it is to repeat the number of inspections during a year without much loss of time, personal sacrifice of convenience and heavy expenditure to Government.

Under any circumstances, regular periodical inspections of Explosives stores which either are situated in dangerous proximity to townships and gathering places or which contain large quantities of high explosives or that are permitted to stack explosives easily susceptible to ready decomposition, have

to

to be conducted without any reserve whatsoever.

8.Theft of Explosives &c. This year again no thefts of Explosives from or burglaries in Magazines or licensed premises have been brought to the notice of this Department,but as usual there were a number of cases detected on the Kolar Gold Field of illegal or unauthorised possession of articles of Explosives composition. It is therefore evident that the possession of such explosives can only be traced to one or the other of the two ways viz:- The methodical way of stealing from the daily supply Magazines built at shaft heads or to the wrongful appropriation of the Explosives deliberately saved from those issued to blasters and their coolies for the day's work without returning the unused material to the daily supply Magazine.

9.Prosecutions.- On the Kolar Gold Field there were instituted 7 prosecutions under the Indian Penal Code and the Mysore Mines Regulation for criminal breach of trust and unlawful possession of Explosives, involving 7 persons of which 5 resulted in conviction of the accused. Considering the quantity and value of the Explosives found in possession of the accused and confiscated to Government the punishments awarded were not at all excessive- ranging from one month's rigorous imprisonment to a fine of Rs.5/-.

In additions to the above one more prosecution was conducted for breach of Explosives Regulation and Rules,which was tried by the Assistant Commissioner and First Class Magistrate of Davangere but resulted in the discharge of the accused

Besides the above two more cases were brought to the notice of this Department in respect of certain irregularities that occurred in the Tumkur District in regard to (a) the export of the large quantity of Explosives from British India without the necessary permit from the Honourable the Resident in Mysore and (b) the possession of Explosives largely in excess of the quantities permitted to be stored by the licenses issued.

In the first of these cases it was found that the licensee acted in ~~matter of~~ ignorance of the Rules and the mistake committed by him was therefore recommended to be condoned by the Government. In the other case however the prosecution of the licensee was ordered and the result thereof will be dealt with in the Report for 1906, for, it was during this year that the prosecution was actually taken in hand and conducted.

10.Accidents &c.- During the calendar year under review no accidents from Explosives were reported to this Department from any part of the Province other than the Kolar Gold Field wherefrom 13 accidents were reported to have occurred in or about the mines, of which one was on surface and the rest viz., 12 underground. The total number of persons killed in these accidents was 11 and of those that were seriously injured was 25. The corresponding figures for 1904 are 11 cases of accident causing death to 7 and serious injury to 10 persons.

It is to be regretted that there has been an increase in mortality and in serious injury to persons during 1905 which under the circumstances the accidents happened look unavoidable.

By a close steady of the lengthy investigations conducted and recorded by the Inspectors of Mines in all accidents due to blasting one will feel impressed that the mishaps are generally traceable to the misadventure, recklessness or negligence of those that have paid the penalty by their death.

In this connection and in the interests of the users of Explosives in general and blasters in particular I believe it will not be, by any way- means, out of place to recapitulate the five well selected precautions recommended to be observed when blasting, by Major C.A.Muspratt Williams R.A. Chief Inspector of Explosives in India and add 5 more that readily suggest themselves to me as absolutely necessary for the safety of persons handling Explosives. Though full instructions are conveyed by sections XIII and XIV of the Rules under the Mysore

Explosives

(Explosives) Regulation (III of 1897) and by the Manual for blasters I merely bring some points together here to better impress the few most necessary precautions.

They are,-

(1) "Never approach a fuze which has apparently missed fire, for at least half an hour."

(2) "Never use an iron or steel tool for ramming charges."

(3) "Even with wood implements squeeze the cartridges home gently in the bore hole and never ram them with any force that might be liable to establish dangerous friction"

(4) "After any blast search should be made to see that no unexploded explosive remains in any of the bore-holes or in the debris produced by the explosive".

(5) "Never drill in or too near old blast holes".

(6) When blasting by means of a detonator the fuse (with attached detonator) must only be inserted in the primer or last cartridge <u>immediately</u> before it is required for use.

(7) No more than 8 holes at a time in a place exceeding 60 square feet and not more than 6 holes in smaller area shall be fired in the same round.

(8) Boring out or deepening holes that have been once charged or withdrawing a charge either before firing or after misfire must not be attempted.

(9) The burning uniform capacity or steady consumption of ~~Sa-ge~~ fuse and its requisite length have

to be carefully studied and noted before use. Only such kinds of fuse whose quality and rate of consumption is known well is to be invariably used.

(10) When blasting misfires if the tamping is of sand or clay, washing the tamping by water alone must be resorted to or about 4 to 5 inches of tamping may be removed by wooden or copper scraping rod leaving the paper wad, the old fuse and the detonator ~~should be carefully inserted~~ intact, a new primer or another cartridge with fresh fuse and detonator should be carefully inserted and exploded in the usual manner.

Accidents by spontaneous ignition or blowing up of gunpowder in the course of manufacture are due to one or the other of the following two causes.- Viz.- In the mixing up of ingredients in proper proportion for blasting charges, the necessary ingredients are recklessly ground in a stone mortar with iron pestle or iron shod wooden pestle though cautioned not to do so repeatedly. The iron often strikes the mortar and dislodges minute particles of iron which catches fire in contact with the oxygen of the air and gives cause to serious ~~explosions~~ explosions. The other instance is either when an artificial light without any protective covering is brought into dangerous proximity where blast powder is manufactured or stored or by allowing the free use of charcoal freshly prepared and not free from cinders - or by permitting the use of iron shod or nailed shoes or sandals which unconsciously rub against the pavement giving rise to sparkes as explained in the first instance. If these two contingencies had been carefully guarded many a serious accident could have been avoided.

The only other set of accidents that can be thought of are those due to the unskilled or reckless use of articles of firework composition especially those that contain sulphur

chlorate

chlorate mixtures which are not prohibited from being imported into the State. These can be easily managed by a little forethought and discretion.

There occur also many accidents by the free and indiscriminate use of petrolium which do not come under explosives and I do not dilate on the necessary precautions here.

A list of accidents by explosives with a concise note on the exact circumstances under which each case occurred is appended - Vide appendix E.

11. Imports of Explosive articles.- The different kinds of Explosives imported into the Mysore Territories during the year 1905 are given in appendix D.

Blasting Gelatine. It is interesting to observe that Blasting gelatine still continues to head the list of imports, though a diminition in the quantity during 1905 is noticed to the extent of 52650 lbs. compared with 1904. As usual its main demand and consumption is confined to the Kolar Gold Field. Other mining development areas being responsible for the use of a comparitively small quantity. It is very likely that before long the quantity imported will increase many-fold with the expansion of other industries in various parts of the Province.

~~Gelatine~~. Gel

Gelignite. Gelignite comes next in rank among the imported Explosives but its use is not altogether confined to the Kolar Gold Field. The quantity imported during 1905 is more than double that was imported during 1904 so that its reputation is fast gaining ground and is used as a favourite on the Woolagere Gold Field, Nanjangud Taluk.

Dynamite. Dynamite takes the third place and its import has more than doubled during 1905 compared with

the previous year. Except a few pounds that are used on the Kolar Gold Field its entire demand seems to have been restricted to other parts of the Province and to D.P.W. contractors for sinking wells in rocky ground and to blast rocks.

Gunpowder. There can also be observed a slight increase in the quantity of gunpowder imported.

Appendix D at the end does not by any means faithfully represent the correct total quantity of Explosives imported into the Provincial limits, in the absence of proper adoptable data to ascertain the correct equivalent quantity of explosive that can be estimated in a given quantity of articles of firework composition. Hence it is obviously defective without corresponding figures for the quantity of fireworks imported being included.

12. Conclusion.- Before concluding I once more beg to take his opportunity to impress on the Government of His Highness the Maharaja on the urgent necessity or desirability of bringing under legislation petrolium and such other allied products that are not cognisable under the Explosives Regulation and Rules by introducong some such act as the British India Petrolium Act, with a view to successfully regulate and control their importation, storage, trade and free use and to facilitate the issue of necessary instructions or precautions to ward off the consequences of every day accidents in the article, as has been already observed by me in paragraph 3 of this report.

13. List of appendices.-

A. List of licenses issued under the Mysore Explosives Regulation by the District Magistrates in Mysore for the year 1905.

B. List of licenses granted by the Government of Mysore in the Geological Department in form E for the year 1905.

C. Statement of the number of licenses granted under each form in the several districts of the State during 1905.

D. Statement of the quantity of Explosives imported into the State of Mysore during the year 1905.

E. List of accidents by explosives during the year 1905.

F List of prosecutions in connection with breach of Explosives Regulation &c., during the year 1905.

I have the honour to be,

Sir,

Your most obedient servant,

Offg.Chief Inspector of

Explosives in Mysore.

November 1906.

Bangalore.

15

G.R.S. 28]

Secs File No. 16 of 06

Serial No. 82

Diary No. of letter replied to _____

Proceedings of the Government of His Highness the Maharaja of Mysore.

GENERAL AND REVENUE SECRETARIAT.

( )

, the 190

Date of issue 19.2.07

Signed by Sir Kambadelly

READ.—

Report of the Chief Inspector of Explosives in Mysore for the year 1906 received with letter No. 1157 of the 16th Nov. 1906 from the State Geologist

ORDER THEREON.—No. J 2490-95 dtd 19.

Govt are glad to note that with few exceptions, all the Magazines are in proper order and that the physical and chemical conditions of all explosives in the different magazines and stores are

over

SUBJECT

satisfactory

2. The total number of Licenses issued both by Govt. and by the Magistrates during the year under ~~Report~~ review was 140 against 132 in the previous year.

3. Though there has been an ~~considerable~~ improvement in the matter of inspections made by the Magistrates and Police officers, it is observed that ~~yet~~ the more distant and out of the way premises have not been inspected at all. As suggested by the Officiating Chief Inspector of Mines too much stress cannot be laid upon the necessity for inspecting all the premises at least once a quarter.

4. With regard to accidents reported upon ~~Govt request to note~~ which show an increase over the figures of last year, Govt regret to